UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,433	03/29/2001	Dennis Angeline	MS158551.1	5040

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EXAMINER
MOSLEHI, FARHOOD

ART UNIT	PAPER NUMBER
2154	5

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/820,433	ANGELINE ET AL.
	Examiner	Art Unit
	Farhood Moslehi	2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 February 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-42</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-42</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-42 are presented for examination.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-17,22,25-33 and 37-42 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jordan (6,016,392) in view of Schaefer et al. (6,629,192).

As per claim 1, Jordan teaches a system for bridging disparate object systems

comprising: a first wrapper to bridge communications across the memory boundary

between a first object system and a second object system (e.g. col. 2, lines 5-16); and a

second interface wrapper to bridge communications across the memory boundary

between the second object system and the first object system, wherein the first interface

wrapper insulates the first object system from interface implementations in the second

object system and the second interface wrapper insulates the second object system

from interface implementations in the first object system to facilitate transparent

communications between the first and second object systems (e.g. Abstract). Jordan

does not specifically discuss a memory boundary between a managed and an

unmanaged object system. Schaefer teaches s system for bridging disparate object

systems, comprising: a memory boundary between a managed and an unmanaged

object system (e.g. cols. 3 and 4, lines 44067 and 1-14 respectively). It would have been obvious to one of ordinary skills in the art at the time the invention was made to combine Jordan and Schaefer. The motivation would have been for managed and unmanaged objects to communicate via an interface.

1.   As per claim 26, it is rejected for the similar reasons as stated above.

2.   As per claim 27, it is rejected for the similar reason as stated above.

3.   As per claim 37, it is rejected for the similar reasons as stated above.

4.   As per claim 38, it is rejected for the similar reasons as stated above.

5.   As per claim 40, it is rejected for the similar reasons as stated above.

6.   As per claim 41, it is rejected for the similar reasons as stated above. Moreover, objects within a wireless system operate similarly to a wired system. The communications protocol that allows communications to take place between wired and wireless systems utilize the same interfaces as in the wired system. The difference is primarily within the Medium Access Protocols (MAC) of the systems. That does not influence object end-to-end communications.

7.   As per claim 2, Jordan describes a method wherein the first object system is at least one of a managed object system and an unmanaged object system, and the second object system is at least one of a managed object system and an unmanaged object system (e.g. col. 2, lines 38-49).

8.   As per claim 42, it is rejected for the similar reasons as stated above.

9.   As per claim 3, Jordan describes a system wherein the first wrapper and second wrapper serve as a proxy to the respective object systems that point to a stub within the wrappers in order to marshal data between the object systems (e.g. col. 2, lines 26-32).

10.   As per claim 28, it is rejected for the similar reasons as stated above.

11.   As per claim 39, it is rejected for the similar reasons as stated above.

12.   As per claim 4, Jordan describes a system wherein the first wrapper queries for type information from the second object system and forms interfaces from methods exposed from the type information (e.g. col. 2, lines 26-38).

13.   As per claim 29, it is rejected for the similar reasons as stated above.

14.   As per claim 5, Jordan describes the system wherein the second wrapper calls the first object system and determines an interface by casting to a type and examining an exception (e.g. col. 2, lines 25-30).

15.   As per claim 30, it is rejected for the similar reasons as stated above.

16.   As per claim 6, Jordan describes a system wherein an adapter object is provided to map interfaces of an unknown type in the first object system to a known type in the second object system (e.g. col. 2, lines 20-30).

17.   As per claim 7, Jordan describes the system wherein the first object system is reference counted and the second object system is traced (e.g. col. 1, lines 36-50).

18.   As per claim 8, Jordan describes a system wherein the first wrapper maintains a traced reference for the second object system and reference counts interfaces utilized by the first object system (e.g. col. 4, lines 56-65).

19.   As per claim 9, Jordan describes a system wherein the second wrapper holds a

traced reference for the second object system and releases interfaces utilized by the

first object system (e.g. col. 4, lines 50-67).

20.   As per claim 10, a system further comprising a garbage collector to reclaim

objects within the second object system, wherein unmanaged objects are reclaimed

based upon the reference count in the first object system (e.g. col. 8, lines 1-10).

21.   As per claim 11, Jordan shows a system wherein object identifies are maintained

by utilizing a single managed wrapper per each object (e.g. col. 2, lines 5-15).

22.   As per claim 31, it is rejected for the similar reasons as stated above.

23.   As per claim 12, Jordan shows a system wherein a specialized wrapper is

defined that subtypes off of a generic wrapper to simulate a class (e.g. col. 3, lines 15-

25).

24.   As per claim 32, it is rejected for the similar reasons as stated above.

25.   As per claim 13, Jordan shows a system comprising a bridging services

component to detect an unmanaged interface call and direct a managed client to an

unmanaged object (e.g. col. 5, lines 44-56).

26.   As per claim 14, Jordan shows a system wherein the unmanaged interface call is

detected through a vtable reference from the second object system (e.g. col. 6, lines 10-

15).

27.   As per claim 15, Jordan discusses a system wherein one or more objects

belonging to the first and second object systems are activated via at least one of an

early bound and late bound manner (e.g. col. 4, lines 46-67).

28.   As per claim 33, it is rejected for similar reasons as stated above.

29.   As per claim 16, Jordan discusses a system wherein a late bound interface is employed to provide late bound activation (e.g. col. 4, lines 46-67).

30.   As per claim 17, Jordan discusses a system wherein early binding is provided at compile time via type information derived from a foreign object system (e.g. col. 4, lines 46-67).

31.   As per claim 22, Jordan shows a system wherein intra object communications is provided via wrappers (e.g. col. 4, lines 38-44).

32.   As per claim 25, Jordan shows a computer-readable medium having computer-executable components for executing the system (e.g. Abstract). It is inherent for the apparatus to have a computer-readable medium in order for volatile objects to be saved and reloaded every time the system is being accessed.

33.   Claims 18-21,23,24,34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan in view of Schaefer and in further view of Foody et al. (5,732,270) (hereinafter Foody).

34.   As per claim 18, Jordan does not specifically show a system wherein type information is provided from at least one of a type library export and type library import tool. Foody describes a system wherein type information is provided from at least one of a type library export and type library import tool (e.g. col. 7, lines 47-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jordan with Foody because it would provide for a library export and import type tool.

35.   As per claim 34, it is rejected for the similar reasons as stated above.

36.   As per claim 19, Jordan does not specifically show a system wherein the first object system utilizes results returned on a method call and the second object system utilizes exceptions. Foody describes a system wherein the first object system utilizes results returned on a method call and the second object system utilizes exceptions (e.g. col. 11, lines (33-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jordan and Foody because it would have provided for results to be returned using method calls and exceptions.

37.   As per claim 20, Jordan does not specifically show a system wherein results are mapped to exceptions and exceptions are mapped to results. Foody describes a system wherein results are mapped to exceptions and exceptions are mapped to results (e.g. col. 11, lines 1-15). VclassData and VexceptionData classes can be mapped using methods. It would have been obvious to one of ordinary skill at the time the invention was made to combine Jordan with Foody to get a mapping between results and exceptions.

38.   As per claim 35, it is rejected for the similar reasons as stated above.

39.   As per claim 21, Jordan does not specifically describe a system wherein object reusability is provided via an inner object and outer object relationship. Foody describes a system wherein object reusability is provided via an inner object and outer object relationship (e.g. col. 6, lines 60-68). The functionality of the foreign and native objects are equivalent to the inner and outer objects. Furthermore, object reusability is inherent to any object oriented programming language such as C++, which has been used by

Foody for development. It would have been obvious to one of ordinary skill at the time the invention was made to combine Jordan and Foody because it would provide for object reusability via inner-outer relationship.

40.   As per claim 23, Jordan does not specifically describe a system wherein inter object communications is provided via proxies within the wrappers. Foody shows a system wherein inter object communications is provided via proxies within the wrappers (e.g. Abstract). It would have been obvious to one of ordinary skill at the time the invention was made to combine Jordan and Foody because it would provide for communications between objects via proxies inside the wrappers.

41.   As per claim 24, Jordan does not specifically describe a system wherein calls are routed to a foreign object system according to environment partitioning rules of the foreign object system. Foody shows a system wherein calls are routed to a foreign object system according to environment partitioning rules of the foreign object system (e.g. col. 2, lines 54-67). It would have been obvious to one of ordinary skill at the time the invention was made to combine Jordan and Foody because it would provide for method calls to a foreign object to be done according to its environmental partitioning rules.

42.   As per claim 36, it is rejected for the similar reasons as stated above.

43.   Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

44.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhood Moslehi whose telephone number is 703-305-8646. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 703-305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

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